

Patent claims

1. Process for the production of low-viscosity water-soluble cellulose ethers by oxidative decomposition of higher-viscosity cellulose ethers with hydrogen peroxide, characterised in that, the higher-viscosity cellulose ethers are intensively mixed with an aqueous solution of hydrogen peroxide at temperatures of 65 - 125°C, the proportions of the mixture being selected in such a way that the hydrogen peroxide content is 0.1 - 10 wt.% in relation to the dry cellulose ether, the solid content of the mixture is no lower than 25 wt.% in relation to the total quantity of the mixture and the mixture is then agitated continuously at temperatures of 65 - 125°C until approximately 90% at least of the hydrogen peroxide has been spent.
2. Process according to claim 1, characterised in that mixing with the aqueous hydrogen peroxide solution is carried out step-by-step.
3. Process according to claim 1 or 2, characterised in that the mixture is agitated continuously at temperatures of 75 - 100°C.
4. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 3, characterised in that 0.1 to 10 wt.% hydrogen peroxide in relation to the dry cellulose ether, preferably 0.2 to 2.5 wt.%, in particular 0.5 to 1.8 wt.% are used.
5. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 4, characterised in that a higher-molecular cellulose ether with a solid content of 35 - 80 wt.%, preferably 40 - 55 wt.%, in relation to the total quantity of cellulose ether and solvent, is used.

- 5 6. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 5, characterised in that before, during or preferably after the decomposition reaction, the pH value of the mixture is set at more than 4.5, preferably 6 to 7, by mixing it with an aqueous solution which has a pH of 5 to 12 and optionally contains, in solution, the hydrogen peroxide required for the decomposition reaction.
- 10 7. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 6, characterised in that the water soluble cellulose ether is carboxymethyl cellulose, hydrophobically modified carboxymethyl cellulose, hydroxyethyl carboxymethyl cellulose, sulfoethyl cellulose, hydrophobically modified sulfoethyl cellulose, hydroxyethyl sulfoethyl cellulose, hydrophobically modified hydroxyethyl sulfoethyl cellulose, hydroxyethyl cellulose, hydrophobically modified hydroxyethyl cellulose, methyl cellulose, methylhydroxyethyl cellulose, methylhydroxyethyl sulfoethyl cellulose, hydrophobically modified methylhydroxyethyl cellulose, methylhydroxypropyl cellulose, hydroxypropyl cellulose or mixtures thereof.
- 20 8. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 7, characterised in that the water-soluble cellulose ether is methylcellulose, methyl hydroxyethyl cellulose, hydrophobically modified methyl hydroxyethyl cellulose, methyl hydroxypropyl cellulose, hydroxypropyl cellulose or mixtures thereof and water-wet filter cakes of these cellulose ethers, as obtained after washing and separation, are used.
- 25 9. Process for the production of low-viscosity water-soluble cellulose ethers according to any one of claims 1 to 7, characterised in that the water soluble cellulose ether is methyl hydroxyethyl cellulose or methyl hydroxypropyl
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~~cellulose and water-wet filter cakes of the cellulose ethers, as obtained after washing and separation, are used.~~

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